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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,362	02/12/2007	Hisakazu Tanaka	80364(47762)	9488

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EXAMINER	
ENG, ELIZABETH	

ART UNIT	PAPER NUMBER
4151	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,362	TANAKA ET AL.	
	Examiner	Art Unit	
	ELIZABETH ENG	4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is FINAL. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04/19/2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/19/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ ~~Notice of Informal Patent Application~~
6) ☐ Other: _____.

Specification

1. The disclosure is objected to because of the following informalities: Page 3, line 4 of the description recites --easy-- which appears to be a misspelling of the word –ease-. Appropriate correction is required.

35 U.S.C. 103 Rejection

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claim 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nawata et al. (PGPUB No. 20030153887) in view of Takeuchi et al. (US patent No. 5453458).

5. Regarding the first step of claim 1, Nawata et al. teaches a production method or core-shell type highly liquid absorbent resin particles comprising an article core portion

formed by suspension polymerizing [0029, lines 1-2] an aqueous solution containing (meth)acrylic acid [0047, lines 1-2], a crosslinking agent [0055, lines 1-2], and an anionic surfactant in an organic solvent containing a nonionic surfactant [0058-0061]. Nawata et al. does not teach the hydrophobic property of the organic solvent. However, it discloses the same compounds, such as n-hexane, toluene, and benzene, as claimed [0058, line 4]. Nawata et al. does not teach the vinyl polymer is water soluble, and a molecular weight of 500-10,000. However, molecular weight is a property that can easily be adjusted.

6. In the same field of endeavor, regarding step two of claim 1, the cited secondary reference Takeuchi et al. primarily teaches a shell portion that covers the particle core portion formed by suspension polymerizing [003, lines 1-4] an aqueous solution containing a vinyl polymer, having carboxyl groups and polymerizable unsaturated double bonds [claim 1b]. Takeuchi et al. does not teach the water solubility of the vinyl polymer. However, it is disclosed that the vinyl polymer is contained in an aqueous solution, meaning that the vinyl polymer is water soluble. Takeuchi et al. also does not teach a molecular weight of 500 to 10,000; however, molecular weight is a property that is within the practitioner's choice and would have been obvious to so choose depending on the desired size of the polymer.

7. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the core of Nawata et al. and the shell of Takeuchi et al. for the benefit of even distribution of absorbent particles, thus yielding a more absorbent resin for bodily fluids.

8. Regarding claim 2, Takeuchi et al. teaches the vinyl polymer is a polyacrylic acid having polymerizable unsaturated double bonds [0027].

9. Regarding claim 3, Takeuchi et al. teaches the anionic surfactant is represented by the following general formula: R'--SO3M (wherein, R' represents an alkenyl group having 8 to 30 carbon atoms or a hydroxyalkyl group having 8 to 24 carbon atoms, and M represents an alkaline metal, quaternary ammonium or quaternary amine) [004, lines 2 and 3].

10. Regarding claim 4, Nawata et al. teaches a nonionic surfactant with an HLB of 6 or greater [0059, line 1], which reads on the claimed range of 4 to 13.

11. Regarding claim 5, Nawata et al. teaches the nonionic surfactant is at least one type selected from the group consisting of polyoxyalkylene sorbitan fatty acid ester, polyoxyalkylene glycerin fatty acid ester, and phosphate trimester [0059 and 0062]. The reference does not teach an HLB value of 9 to 11, 9 to 10, and 7 to 13, for each of the nonionic surfactants, respectively. However, the reference teaches an HLB of 6 or greater, which reads on the claimed ranges [0059, line 1].

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Eng whose telephone number is (571) 270-7743. The examiner can normally be reached on Mon-Thurs from 9:00 am 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Angela Ortiz can be reached at (571) 272-1206. The fax phone number for

the organization where this application or proceeding is assigned is (571) 270-8743.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

E.E.

/Angela Ortiz/
Supervisory Patent Examiner, Art Unit 4151